DEPARTMENT OF THE NAVY
COMMANDER
TRAINING AIR WING FIVE
7480 USS ENTERPRISE STREET SUITE 205
MILTON, FLORIDA 32570-6017

From: Commander, Training Air Wing FIVE
To: Commanding Officer, Training Squadron EIGHT
     Commanding Officer, Training Squadron EIGHTEEN
     Commanding Officer, Training Squadron TWENTY EIGHT
     Officer in Charge, Helicopter Instructor Training Unit

Subj: TW-5 READ AND INITIAL 16-01: TH-57 HOT START PREVENTION GUIDANCE

Ref: (a) TH-57 In-Flight Guide

Encl: (1) TH-57 Battery Start

1. Effective: Immediately.

2. Expiration: Until Further Notice.

3. Background: To provide amplification and technique for TH-57 battery starts in an effort to reduce the risk of a Hot Start. Hot Starts can be mitigated through crew coordination, instructor vigilance, effective defensive posturing and utilizing conservative abort criteria.

4. Action: Include this Read and Initial (R&I) in the squadron all R&I binder. Include enclosure (1) as the last page of reference (a) and review prior to executing each battery start.

5. The point of contact for this Read and Initial is the TRAWING FIVE Rotary-Wing Standardization Officer, LCDR Greg Mouritsen, at 623-7522.

G. A. KLING

Copy to:
TW-5 TH-57 Standardization Officer

TH-57 Battery Start

Conditions That Increase Potential for a Hot Start

1. Cold OAT
2. Weak battery (low voltage or other indications from the aircraft-buzzing ICS, dim lights, etc.)
3. Tailwind
4. First start of the day

Typical Battery Start

Due to lower amperage, the dual peak start is more pronounced than with a GPU start. If the first peak is warmer than usual, the second peak will be exponentially warmer due to a lack of cooling air. A battery start may also be slower to accelerate than a GPU start: Consider starter limits.

Best Practices

Ensure fuel is introduced at 15% Ng for OAT at or above 7°C. If Ng does not reach 15%, the battery is not strong enough to continue with a battery start. Do not wait for Ng to peak or for main rotor movement.

Utilize conservative **ABORT** criteria. Some examples include:

a. Limit time in transient range to 7 seconds.
If more than a TOTAL of 10 seconds per start sequence are spent in the transient range, the Diamond J gauge will register a Hot Start.
b. TOT above 860°C on first peak.
c. TOT accelerating through 860°C on second peak.
d. Be prepared to abort if battery voltage stabilizes below 19 volts.
Do not introduce fuel if voltage stabilizes below 17 volts.

Reminder:

Current FAA regulations require turbine overhaul if temperature limit (927°C) is exceeded for even one second. This is an expensive maintenance action that can often be mitigated with appropriate defensive posturing and conservative abort criteria.
When in doubt, abort and utilize a GPU.